



## Self-affirmation theory and cigarette smoking warning images



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### HIGHLIGHTS

- Self-Affirmation effects were moderated by cigarette use and health benefits.
- Graphic warning labels has little impact on those not affirmed.
- Self-Affirmation work for those in both the high and low affirmation conditions.

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### ABSTRACT

**Introduction:** The present study examined self-affirmation theory, cigarette smoking, and health-related images depicting adverse effects of smoking. Previous research examining self-affirmation and negative health-related images has shown that individuals who engage in a self-affirmation activity are more receptive to messages when compared to those who do not affirm. We were interested in examining the extent to which self-affirmation would reduce defensive responding to negative health images related to cigarette smoking.

**Methods:** Participants included 203 daily smokers who were undergraduate students at a large southern university. Participants completed a battery of questionnaires and were then randomly assigned to one of four conditions (non-smoking image control, smoking image control, low affirmation, and high affirmation). Analyses evaluated the effectiveness of affirmation condition as it related to defensive responding.

**Results:** Results indicated that both affirmation conditions were effective in reducing defensive responding for those at greatest risk (heavier smokers) and those more resistant to health benefits associated with quitting.

**Conclusions:** Findings are discussed in terms of potential public health implications as well as the role defensive responding plays in the evaluation and processing of negative health messages.

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### 1. Self-affirmation theory background

Self-affirmation theory (Steele, 1988) posits that the overall goal of the self-system is to protect an individual's image of self-integrity. This includes perceptions of being intelligent, independent, and autonomous, as well as being a good group member and maintaining close relationships, among others (Sherman & Cohen, 2006). When these perceptions of self-integrity are threatened, people respond in various ways to restore global self-worth. These responses often take the form of defensive reactions that directly reduce the threat. One way to reduce defensive responding is through the use of self-affirmation.

Affirmation can be accomplished by engaging in activities that remind a person of the values and roles they hold to be important. A 'self-affirmation' brings to mind important core qualities or sources of identity that help to reduce the defensive responding

activated by threats to another domain (Sherman & Cohen, 2006). After completing an affirmation exercise, individuals not only respond less defensively to threatening messages, but are also more likely to become receptive to them, incorporating the information into their self-concept and beginning the process of changing their thoughts or behavior (Cohen, Aronson, & Steele, 2000; Jacks & O'Brien, 2004; McQueen & Klein, 2006).

#### 1.1. Self-affirmation and defensive responses

Defensive responding can be particularly maladaptive when it leads to rejection of important and relevant health information. Health messages, such as those regarding cigarette smoking, can threaten the self by suggesting that behaviors consistent with one's image are linked to disease and other unwanted consequences. The healthiest response to threatening health information is a reduction of problem behavior or a discontinuation of the behavior altogether (Sherman & Cohen, 2006). However, several studies have demonstrated that when a threatening health message is of high personal relevance, people are more likely to scrutinize the message for fault compared to less personally

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relevant messages (Ditto & Lopez, 1992; Kunda, 1987; Liberman & Chaiken, 1992).

As noted in recent reviews (Harris & Epton, 2009, 2010), self-affirmation has been examined in the context of multiple health behaviors. There is growing evidence that self-affirming promotes greater general and personal acceptance of negative health-related information and reduces message derogation (Jessop, Simmonds, & Sparks, 2009; Morris & Swann, 1996; Sherman, Nelson, & Steele, 2000).

### 1.2. Self-affirmation and cigarette smoking

The pattern of defensive responding or ignoring negative health information of high personal relevance can be particularly problematic when it occurs among cigarette smokers. Smoking prevalence remains high despite the well-documented and widely publicized negative consequences of cigarette use such as cancer, heart disease, respiratory illness as well as dysphoria, stress, and depression (American Cancer Society, 2012; Balfour & Ridley, 2000; Choi, Patten, Gillin, Kaplan, & Pierce, 1997).

Harris, Mayle, Mabbott, and Napper (2007) conducted an experiment examining smokers' responses to graphic health images concerning smoking behavior. Self-affirmed participants, when compared to the control group, displayed greater message receptivity and lower defensiveness as evidenced by their image rating scores. Their results also indicated that self-affirmation varied as a function of cigarette smoking. Specifically, affirmed participants with high and moderate levels of cigarette use were more receptive to negative health messages compared to those with lower levels of cigarette use.

Moreover, recent research suggests that self-affirmation effects are more favorable for loss-framed messages (Zhao & Nan, 2010). This is important because many anti-smoking messages tend to be loss-framed, often emphasizing the negative effects of smoking on health, resources, and loved ones. The present study aimed to replicate and add to these findings by considering the importance and relevance of the affirmation activity using nine graphic images currently under consideration for mandatory inclusion on all U.S. cigarette packages, eight of which were considered loss-framed.

### 1.3. Cigarette smoking

It is well established that cigarette smoking and tobacco use are the leading causes of preventable death in the United States. Smoking accounts for approximately 430,000 deaths per year in the United States, killing more people than cocaine, heroin, alcohol, fires, auto accidents, homicides, suicides, and AIDS combined (Mokdad, Marks, Stroup, & Gerberding, 2004). It is also linked to a number of psychosocial issues, including dysphoria, stress, and depression (Balfour & Ridley, 2000; Choi et al., 1997; Parrott & Garnham, 1998; Parrott & Kaye, 1999).

The health consequences related to smoking and the benefits of quitting have been widely publicized over the past several decades (American Cancer Society, 2012). We propose that the denial of health benefits associated with quitting is an indicator of defensive responding, specifically message rejection. For example, smokers would appear to be responding defensively to widely established information if they reported that smoking cessation would not decrease their chances of developing lung cancer. Further, the present study aims to examine the extent to which effectiveness of self-affirming activities depends on relevance (i.e., number of cigarettes smoked) and baseline defensiveness (i.e., denial of health benefits associated with quitting).

### 1.4. Cigarette smoking and cigarette pack content

In an attempt to increase awareness of the health risks associated with smoking and decrease tobacco usage among consumers, some

countries have begun implementing warning labels on cigarette packages. These labels occasionally make use of graphic images depicting some of the negative effects of smoking (Hammond et al., 2007). Hammond, Fong, McDonald, Brown, and Cameron (2004) evaluated the impact of graphic warning labels on cigarette packs used in Canada. Their findings indicated that approximately one fifth of participants reported a decrease in smoking as a result of the labels, with only 1% reporting an increase. This reduction in smoking occurred despite reported negative responses to the warning labels.

Hammond et al. (2007) conducted a study assessing the effectiveness of cigarette warning labels in four different countries. Labels varied from graphic depictions of sickness and disease represented on Canadian packages to obscure text warnings used on American packages. They found that Canadian smokers reported the greatest levels of awareness regarding health warnings among all four countries, followed by Australian smokers. American smokers consistently reported the lowest levels of awareness of the health risks of cigarette usage.

### 1.5. Proposed cigarette images for use in the United States

In June of 2011, the Food and Drug Administration (FDA) proposed nine graphic smoking-related images, similar to those currently used in Canada, to appear on all cigarette packs and smoking ads in the United States. The final nine images (chosen from a list of 36 potentials) were selected by the FDA in an effort to impact public health related to cigarette smoking by decreasing the number of smokers, increasing life expectancy, and improving health status (U.S. Department of Health & Human Services, 2011). At the time of the writing of this article, whether and when these images would be implemented was not clear and was subject to additional legislation.

### 1.6. Current aims

The current study aimed to add to the existing self-affirmation literature in several ways. First, this is the only research to date examining the effectiveness of the FDA cigarette warning labels under consideration. Second, only a few previous studies on self-affirmation and defensive processing of negative health information have used multiple affirmation conditions (Jessop et al., 2009). By using a high affirmation condition, a low affirmation condition, a smoking image control condition, and a non-smoking image control condition, the current study explored the degree to which the importance of the affirmation activity mattered in reducing defensive processing. Moreover, the current study aimed to examine self-reported quit intentions as a function of self-affirmation. It was hypothesized that the more important the affirmed value was during the affirmation activity, the higher one's quit intentions would be. Further, the current study sought to replicate the work of Harris et al. (2007) by assessing whether the number of cigarettes smoked moderated the effects of self-affirmation among individuals smoking at least 10 cigarettes per day. Thus, based on the self-affirmation theory, we expected heavier smokers in the affirmation condition to rate images as less threatening compared to non-affirmed participants. More specifically, we believed that those who smoked more cigarettes would have greater levels of initial defensiveness and that defensiveness would be offset by engagement in an affirmation activity. Finally, the current study aimed to assess whether perceived health benefits moderated the effects of self-affirmation. It was hypothesized that self-affirmed participants who reported fewer health benefits associated with smoking cessation, thus higher message rejection, would have reduced overall threat ratings and higher self-reported quit intentions.

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